To: Christner, Jan[Jan.Christner@WestonSolutions.com]
Cc: McComb, Martin[McComb.Martin@epa.gov]; Way, Steven[way.steven@epa.gov]; Peronard, Paul[Peronard.Paul@epa.gov]
From: Rob Runkel
Sent: Sat 9/5/2015 12:23:19 AM
Subject: RE: predicting A72 concentrations w/o GK treatment
sept4_2015_approach.xlsx

All --
Earlier today I proposed a revised approach that attempts to

Deliberative Process / Ex. 5

hope you all get some time off this weekend - Rob

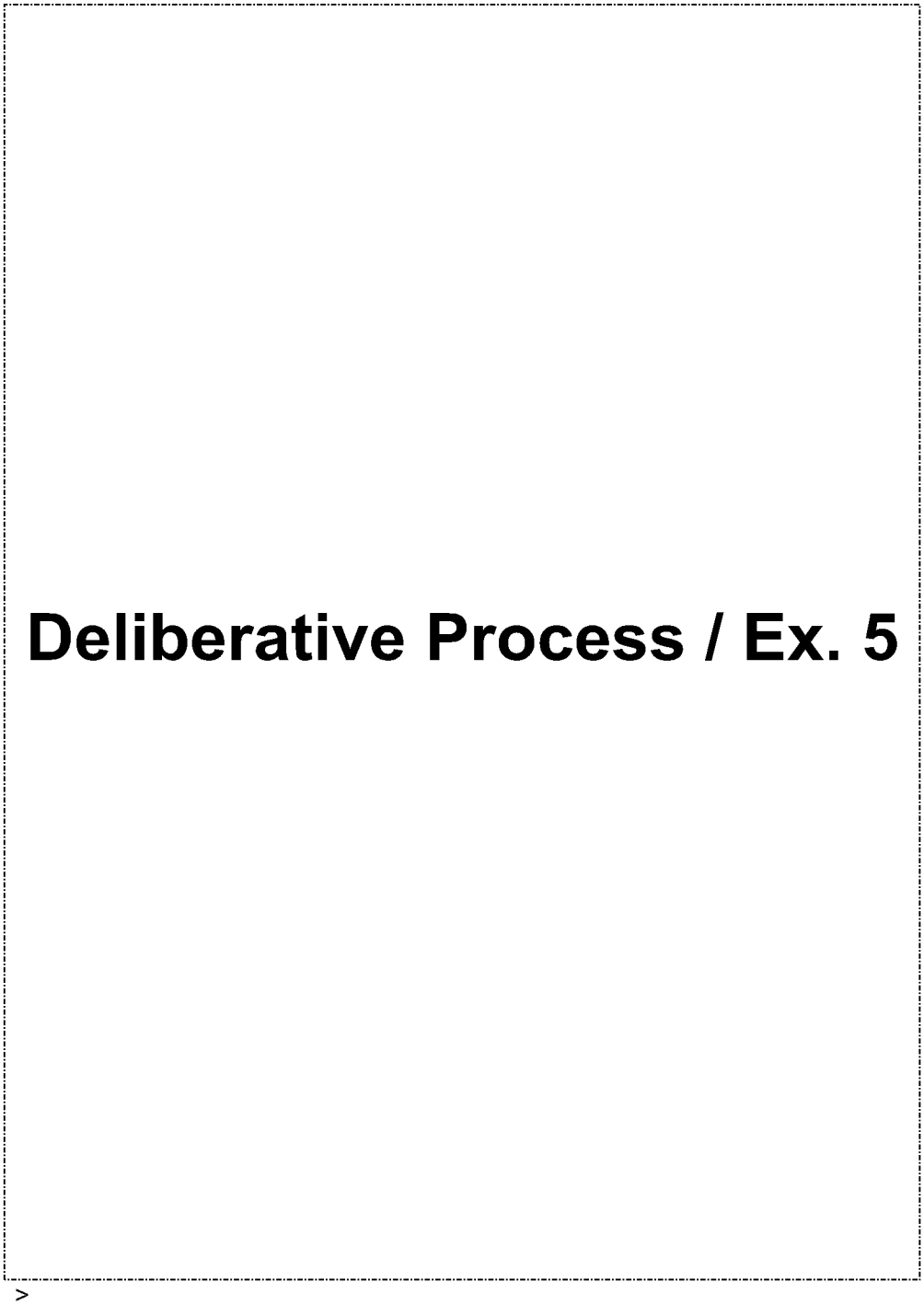
Rob Runkel
Research Hydrologist

U.S. Geological Survey
runkel@usgs.gov
303.541.3013
http://profile.usgs.gov/runkel

On Fri, 4 Sep 2015, Christner, Jan wrote:

> See attached spreadsheet. I was doing what Rob mentions below, but the presentation may be a little different.
>
> See the 1st three tabs on the spreadsheet.
>
> A72+GKMxCatt Shows the concentrations calculated using the current % attenuation (calc shown on Attenuation tab)
> A72+GKMxHatt shows the concentrations calculated using the average historic % attenuation (calc shown on Attenuation tab) - [notice the difference between historic mean and historic average]
> Paired Attenuation does what Rob suggested below, uses the attenuation observed during that event (calculated on Event Attenuation tab).
> No attenuation shows the results per the previous version
>
> For all instances, where the attenuation was negative (apparent addition of contaminants at A72) I used an attenuation of 0.
>
> Rob - please spot check a few calculations.
>
> Let me know what you think and if you'd like this presented differently.
>
> Jan
>
>
> -----Original Message-----
> From: Rob Runkel [mailto:runkel@usgs.gov]
> Sent: Friday, September 04, 2015 9:48 AM
> To: Christner, Jan
> Cc: McComb, Martin; Way, Steven
> Subject: RE: predicting A72 concentrations w/o GK treatment
>
>
> Thanks Jan. I think its pretty clear from this that the simple approach I suggested yesterday is in fact too simple Deliberative Process / Ex. 5

Deliberative Process / Ex. 5



>
>
>
> On Fri, 4 Sep 2015, Christner, Jan wrote:
>
>> See attached "Concentrations with GKM Discharge". First look at the 600 gpm tab, then the 500 gpm tab. The "Format 1" tab presents the same 600 gpm information in a slightly different format.
>>
>>
>>
>> Before I waste time formatting this, please let me know what you think of the numbers. Are they

useful? As you might expect, the contaminants most likely to be attenuated have the greatest percentage increase at A72.
>>
>>
>>
>> A comparison of current and historic values is shown on the last tab.
>>
>>
>>
>> Also attached is a summary of pH values for key locations.
>>
>>
>>
>> Please let me know if you have questions, comments, or would like to see changes or additional information.
>>
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>> Jan
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>> -----Original Message-----
>> From: McComb, Martin [mailto:McComb.Martin@epa.gov]
>> Sent: Thursday, September 03, 2015 6:50 PM
>> To: Christner, Jan
>> Cc: Rob Runkel; Way, Steven
>> Subject: Re: predicting A72 concentrations w/o GK treatment
>>
>>
>>
>> This will give us the core data, we can always reformat later.
>>
>>
>>
>> Thanks, please proceed.
>>
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>>> On Sep 3, 2015, at 5:50 PM, Christner, Jan <Jan.Christner@WestonSolutions.com<mailto:Jan.Christner@WestonSolutions.com>> wrote:
>>
>>>
>>
>>> See the attached Excel table to be sure this is what you expect.
>>

>>>
>>
>>> I concur with Rob's equations below.
>>
>>>
>>
>>> -----Original Message-----
>>
>>> From: Rob Runkel [mailto:runkel@usgs.gov]
>>
>>> Sent: Thursday, September 03, 2015 5:37 PM
>>
>>> To: Christner, Jan; Steve Way; mccomb.martin@epa.gov<mailto:mccomb.martin@epa.gov>
>>
>>> Subject: predicting A72 concentrations w/o GK treatment
>>
>>>
>>
>>>
>>
>>> As I said on the phone, perhaps more for me than for you, a
>>
>>> recap:
>>
>>>
>>

Deliberative Process / Ex. 5

>>> ----------
>>
>>> Rob Runkel
>>
>>> Research Hydrologist
>>
>>> U.S. Geological Survey
>>
>>> runkel@usgs.gov<mailto:runkel@usgs.gov>
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>>
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>>
>>> <Concentrations with GKM Discharge.xlsx>
>>
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